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Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)			
	09/829,078	HIYAMA ET AL.			
Office Action Summary	Examiner	Art Unit			
	Dennis-Doon Chow	2675			
The MAILING DATE of this communication ap Period for Reply	pears on the cover sheet with the c	orrespondence address			
A SHORTENED STATUTORY PERIOD FOR REPL THE MAILING DATE OF THIS COMMUNICATION.  - Extensions of time may be available under the provisions of 37 CFR 1. after SIX (6) MONTHS from the mailing date of this communication.  - If the period for reply specified above is less than thirty (30) days, a rep - If NO period for reply is specified above, the maximum statutory period - Failure to reply within the set or extended period for reply will, by statut Any reply received by the Office later than three months after the mailine earned patent term adjustment. See 37 CFR 1.704(b).	136(a). In no event, however, may a reply be timely within the statutory minimum of thirty (30) days will apply and will expire SIX (6) MONTHS from e, cause the application to become ABANDONE	nely filed s will be considered timely. the mailing date of this communication. D (35 U.S.C. § 133).			
Status					
1)⊠ Responsive to communication(s) filed on 29 C	October 2004.				
	s action is non-final.				
	Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under <i>Ex parte Quayle</i> , 1935 C.D. 11, 453 O.G. 213.				
Disposition of Claims					
4)  Claim(s) 3-39 is/are pending in the application 4a) Of the above claim(s) is/are withdra 5)  Claim(s) is/are allowed. 6)  Claim(s) 3-39 is/are rejected. 7)  Claim(s) is/are objected to. 8)  Claim(s) are subject to restriction and/o	wn from consideration.				
Application Papers					
9) The specification is objected to by the Examina	er.				
10) The drawing(s) filed on is/are: a) acc	cepted or b) $\square$ objected to by the $\mathfrak k$	Examiner.			
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).					
Replacement drawing sheet(s) including the correct 11) The oath or declaration is objected to by the E	,				
Priority under 35 U.S.C. § 119					
<ul> <li>12) Acknowledgment is made of a claim for foreign a) All b) Some * c) None of:</li> <li>1. Certified copies of the priority document</li> <li>2. Certified copies of the priority document</li> <li>3. Copies of the certified copies of the priority document</li> <li>* See the attached detailed Office action for a list</li> </ul>	ts have been received. ts have been received in Applicationity documents have been received in (PCT Rule 17.2(a)).	on No ed in this National Stage			
Attachment(s)  1) Notice of References Cited (PTO-892)	4) 🔲 Interview Summary	(PTO-413)			
<ul> <li>2) Notice of Practices Cited (PTO-892)</li> <li>3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08 Paper No(s)/Mail Date</li> </ul>	Paper No(s)/Mail Da				

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### **DETAILED ACTION**

## Claim Rejections - 35 USC § 103

- 1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
  - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- 2. Claims 3-5, 8-10 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akimoto, WO97/11447 ('447 is a PCT of the US Patent 6,329,973. See the US Patent for the English description)

As pertaining to claim 4, 8-10 and 39, Akimoto teaches image display apparatus for displaying images, figure 3 depicts the image display apparatus in which the matrix display is divided into two different regions. Each region can be construed as one block unit having a predetermined number pixels that is defined within the matrix of 8 rows by 12 columns (col. 5, lines 24-44). Also, Akimoto teaches discriminating an image to be displayed in the block unit between a dynamic or moving image and a still image (col. 4, lines 9-42, 66-67; col. 5, lines 1-65; fig. 3). Furthermore, Akimoto teaches the forming of one screen image for displaying two different images (information) on two different regions (col. 4, lines 9-42, 66-67; col. 5, lines 1-65; fig. 3).

Akimoto discloses the discriminating of the still image being either gradation, monochromatic color or multicolor (col. 7, lines 6-12). So it would be obvious that Akimoto discloses displaying the plurality of pixels for a still image of low definition level. Claim 4 is dependent on claims 1 or 2 and is rejected on the same basis and what is stated above.

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As pertaining to claim 3, Akimoto teaches the respective regions can be switched into different regions that are equal to or greater than one block unit (col. 5, lines 24-42; col. 6, lines 11-20). Claim 3 is dependent on claims 1 or 2 and is rejected on the same basis and what is stated above.

As pertaining to claim 5, Akimoto teaches the one screen image is consisted of frames in number less than or equal to number of plurality of pixels forming one block unit and plurality of pixels are selected per frame (col. 2, lines 28-37; col. 5, lines 45-67; col. 6, lines 1-5, 30-38). Claim 5 is dependent on claims 1 or 2 and is rejected on the same basis and what is stated above.

3. Claims 6 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akimoto in view of Akiyama, US 5,952,991.

Akimoto discloses what has previously been stated above. Also, Akimoto discloses LCD in which a TFT switch is used. It is well known in the art and inherently known that a TFT-LCD will consist of plurality of scanning lines and a plurality of signal lines arranged in a matrix fashion; switches formed at the intersections of scanning and signal lines and is connected to each of the lines; furthermore, opposed electrodes and pixel electrodes connected to switches per plurality of pixels. Furthermore, Akimoto discloses driving waveforms of different levels for displaying information in one region and then displaying different information in another region (col. 4, lines 9-42, 66-67; col. 5, lines 1-65). In addition, Akimoto discloses a plurality of signal lines formed with a plurality of scanning lines in a form of a matrix, a plurality of first switches formed corresponding to the intersection of scanning lines and first signal lines (col. 3, lines 49-67; col. 4, lines 1-8; fig. 2); and a plurality of second switches formed between the second signal lines and first switches (col. 3, lines 49-67; col. 4, lines 1-8; fig. 2).

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Akimoto does not disclose opposed electrodes and pixel electrodes connected to switches per plurality of pixels. It is well known in the art and inherently known that a TFT-LCD would consist of them.

Akiyama does disclose plurality of scanning lines and a plurality of signal lines arranged in a matrix fashion; switches formed at the intersections of scanning and signal lines and is connected to each of the lines; furthermore, opposed electrodes and pixel electrodes connected to switches per plurality of pixels (col. 2, lines 25-67; col. 3, lines 1-24; col. 5, lines 33-57). Furthermore, Akiyama discloses the LCD is able to display moving or dynamic and still or static information on one screen image (col. 15, lines 43-54).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the LCD of Akiyama with the LCD of Akimoto.

The suggestion/motivation for doing so would have been to provide a display that encompasses all of the limitations of claimed invention, even though it is well known in the art and inherently known that TFT-LCD comprises all of the limitations of the claimed invention.

Claim 6 is dependent on claims 1 or 2 and is rejected on the same basis and what is stated above.

4. Claims 7 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akimoto in view of Shibahara, US 6,104,463.

Akimoto discloses what has previously been stated above. Also, Akimoto discloses the forming of one screen image for displaying two different images (information) on two different regions (col. 4, lines 9-42, 66-67; col. 5, lines 1-65; fig. 3). Furthermore, Akimoto discloses the discriminating of the still image being either gradation, monochromatic color or multicolor (col. 7, lines 6-12).

Akimoto does not disclose the image display apparatus that has a lighting device, a pair of transparent substrates having a polarizing panel and a liquid crystal layer in between the pair of substrates for applying an electrical field to the liquid crystal layer for controlling orientation for the display in the image and a blinking illustration of the lighting device.

Shibahara discloses an image display apparatus that has a lighting device, a pair of transparent substrates having a polarizing panel and a liquid crystal layer in between the pair of substrates for applying an electrical field to the liquid crystal layer for controlling orientation for the display in the image and a blinking illustration of the lighting device to equalize the chromaticity (col. 4, lines 9-67; col. 5, lines 1-48; col. 7, lines 25-67; col. 8, lines 1-10).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the LCD of Shibahara with the LCD of Akimoto.

The suggestion/motivation for doing so would have been to provide a display that is able to control the chromaticity level and reduce the display nonuniformity. Claim 7 is dependent on claims 1 or 2 and is rejected on the same basis and what is stated above.

5. Claims 11-12, 15 and 36-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akimoto in view of Miyoshi, US 6,339,446 B1.

As pertaining to claims 11-12, and 15, Akimoto discloses an image display apparatus for displaying images, figure 3 depicts the image display apparatus in which the matrix display is divided into two different regions. The matrix can be construed as one block unit having a predetermined number pixels that is defined within the matrix of 8 rows by 12 columns (col. 5, lines 24-44). Also, Akimoto discloses discriminating an image to be displayed in the block unit between a dynamic or moving image and a still image (col. 4, lines 9-42, 66-67; col. 5, lines 1-65; fig. 3). Furthermore, Akimoto discloses the forming of one screen image for displaying two

different images (information) on two different regions (col. 4, lines 9-42, 66-67; col. 5, lines 1-65; fig. 3). In addition, as figure 2 depicts, Akimoto discloses a still image memory 6, that can act like a frame memory, a dynamic image/still image discriminating circuit 17, a signal driver 42 and 44, a control signal driver 51 and 52 and pixel selection driver 41 and 43 (col. 3, lines 49-67; col. 4, lines 1-8, 66-67; col. 5, lines 1-23). Additionally, discriminating circuit 17 in conjunction with moving image decoder 3 allows for dynamic information to be displayed in the dynamic region and the discriminating circuit 17 in conjunction with still image memory 6 allows for still information to be displayed in the still region.

As pertaining to claims 11-12, and 15 Akimoto does not disclose specifically that still image memory 6 is a frame memory having different resolutions.

As pertaining to claims 11-12, and 15 Miyoshi discloses a device that displays still and moving images simultaneously on a display screen (fig. 3 and 5). Also, Miyoshi discloses separate components for each image, in which frame memories are used (col. 6, lines 6-22, 45-54). Furthermore, Miyoshi discloses the frame memories can be used to control different resolutions (col. 6, lines 55-63).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the frame memory of Miyoshi with the still image memory of Akimoto.

The suggestion/motivation for doing so would have been to provide a better display that is able to incorporate still/static and moving/dynamic information on one screen with different levels of resolution, so as to allow for a better picture, clearer picture etc.

As pertaining to claims 36-38, Akimoto discloses an image display apparatus for displaying images, figure 3 depicts the image display apparatus in which the matrix display is divided into two different regions. The matrix can be construed as one block unit having a predetermined number pixels that is defined within the matrix of 8 rows by 12 columns (col. 5,

lines 24-44). Also, Akimoto discloses discriminating an image to be displayed in the block unit between a dynamic or moving image and a still image (col. 4, lines 9-42, 66-67; col. 5, lines 1-65; fig. 3). Furthermore, Akimoto discloses the forming of one screen image for displaying two different images (information) on two different regions (col. 4, lines 9-42, 66-67; col. 5, lines 1-65; fig. 3). In addition, as figure 2 depicts, Akimoto discloses a still image memory 6, that can act like a frame memory, a dynamic image/still image discriminating circuit/control device 17, a signal driver 42 and 44, a control signal driver 51 and 52 and pixel selection driver 41 and 43 (col. 3, lines 49-67; col. 4, lines 1-8, 66-67; col. 5, lines 1-23). Additionally, discriminating circuit 17 in conjunction with moving image decoder 3 allows for dynamic information to be displayed in the dynamic region and the discriminating circuit 17 in conjunction with still image memory 6 allows for still information to be displayed in the still region. Akimoto does not disclose specifically that still image memory 6 is a frame memory having different resolutions. Miyoshi discloses a device that displays still and moving images simultaneously on a display screen (fig. 3 and 5). Also, Miyoshi discloses separate components for each image, in which frame memories are used (col. 6, lines 6-22, 45-54).

6. Claims 13-14, 17-23, 26-30, and 32-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akimoto and Miyoshi as applied to claim 11 or 12 above, and further in view of Shibahara.

As pertaining to claim 13, Akimoto and Miyoshi disclose what has previously been stated above. Furthermore, Akimoto discloses a first signal line and a second signal line formed with a plurality of scanning lines in a form of a matrix, a plurality of first switches formed corresponding to the intersection of scanning lines and first signal lines (col. 3, lines 49-67; col.

4, lines 1-8; fig. 2); and a plurality of second switches formed between the second signal lines and first switches (col. 3, lines 49-67; col. 4, lines 1-8; fig. 2).

As pertaining to claim 13, they do not disclose a lighting device; a pair of transparent substrates having a polarization panel; a liquid crystal layer disposed between the pair of substrates; an opposed electrode on the substrate; an electric field applied between a pixel electrode and opposed electrode and an image being displayed by controlling orienting condition of liquid crystal.

As pertaining to claim 13, Shibahara discloses a lighting device; a pair of transparent substrates having a polarization panel; a liquid crystal layer disposed between the pair of substrates; an opposed or common electrode on the substrate; an electric field applied between a pixel electrode and opposed electrode and an image being displayed by controlling orienting condition of liquid crystal (col. 4, lines 9-67; col. 5, lines 1-48; col. 7, lines 25-67; col. 8, lines 1-10).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the LCD of Shibahara with the LCD of Akimoto and Miyoshi.

The suggestion/motivation for doing so would have been to provide a display that encompasses all of the limitations of claimed invention, even though it is well known in the art and inherently known that TFT-LCD comprises all of the limitations of the claimed invention.

As pertaining to claim 14, Shibahara discloses applying a lateral electrical field to the opposed or common electrode and pixel electrode (col. 1, lines 30-39). Claim 14 is dependent on claims 11 or 12 and is rejected on the same basis and what is stated above.

As pertaining to claim 17, Shibahara discloses a lighting device for moving light emitting region in synchronism with a scanning signal applied to the scanning line (col. 4, lines

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9-67; col. 5, lines 1-48; col. 7, lines 25-67; col. 8, lines 1-10). Claim 17 is dependent on claim 11 or 12, and 13 and is rejected on the same basis and what is stated above.

As pertaining to claim 18, Akimoto discloses a first signal line and a second signal line formed with a plurality of scanning lines in a form of a matrix, a plurality of first switches formed corresponding to the intersection of scanning lines and first signal lines (col. 3, lines 49-67; col. 4, lines 1-8; fig. 2); and a plurality of second switches formed between the second signal lines and first switches (col. 3, lines 49-67; col. 4, lines 1-8; fig. 2). It would be obvious that they would be formed on different substrates in order for the LCD to operate correctly. Shibahara discloses a lighting device; a pair of transparent substrates having a polarization panel; a liquid crystal layer disposed between the pair of substrates; an opposed or common electrode and pixel electrode connected to the first of second switches; an electric field applied between a pixel electrode and opposed electrode and an image being displayed by controlling orienting condition of liquid crystal (col. 4, lines 9-67; col. 5, lines 1-48; col. 7, lines 25-67; col. 8, lines 1-10). Claim 18 is dependent on claims 11 or 12 and is rejected on the same basis and what is stated above.

As pertaining to claim 19, Akimoto discloses a first signal line and a second signal line formed with a plurality of scanning lines in a form of a matrix, a plurality of first switches formed corresponding to the intersection of scanning lines and first signal lines (col. 3, lines 49-67; col. 4, lines 1-8; fig. 2); and a plurality of second switches formed between the second signal lines and first switches (col. 3, lines 49-67; col. 4, lines 1-8; fig. 2). Shibahara discloses a lighting device; a pair of transparent substrates having a polarization panel; a liquid crystal layer disposed between the pair of substrates; an opposed or common electrode on one of the substrates and pixel electrode connected to the second switches; an electric field applied between a pixel electrode and opposed electrode and an image being displayed by controlling

orienting condition of liquid crystal (col. 4, lines 9-67; col. 5, lines 1-48; col. 7, lines 25-67; col. 8, lines 1-10). Claim 19 is dependent on claims 11 or 12 and is rejected on the same basis and what is stated above.

As pertaining to claims 20-21, Shibahara discloses applying a lateral electrical field to the opposed or common electrode and pixel electrode (col. 1, lines 30-39). Claims 20 and 21 are dependent on claims 11 or 12 and 18 or 19 and are rejected on the same basis and what is stated above.

As pertaining to claims 22-23, Shibahara discloses applying a vertical electrical field to the opposed or common electrode and pixel electrode (col. 1, lines 15-23). Claims 22 and 23 are dependent on claims 11 or 12 and 18 or 19 and are rejected on the same basis and what is stated above.

As pertaining to claims 26-27, Shibahara discloses a lighting device for moving light emitting region in synchronism with a scanning signal applied to the scanning line (col. 4, lines 9-67; col. 5, lines 1-48; col. 7, lines 25-67; col. 8, lines 1-10). Claims 26 and 27 are dependent on claim 11 or 12, and 18 or 19 and are rejected on the same basis and what is stated above.

As pertaining to claim 28, Akimoto discloses a first signal line and a second signal line formed with a plurality of scanning lines in a form of a matrix, a plurality of first switches formed corresponding to the intersection of scanning lines and first signal lines (col. 3, lines 49-67; col. 4, lines 1-8; fig. 2); and a plurality of second switches formed between the second signal lines and first switches (col. 3, lines 49-67; col. 4, lines 1-8; fig. 2). Shibahara discloses a lighting device; a pair of transparent substrates having a polarization panel; a liquid crystal layer disposed between the pair of substrates; an opposed or common electrode on one of the substrates and pixel electrode connected to the switches; an electric field applied between a pixel electrode and opposed electrode and an image being displayed by controlling orienting

condition of liquid crystal (col. 4, lines 9-67; col. 5, lines 1-48; col. 7, lines 25-67; col. 8, lines 1-10). Claim 28 is dependent on claims 11 or 12 and is rejected on the same basis and what is stated above.

As pertaining to claim 29, Shibahara discloses applying a lateral electrical field to the opposed or common electrode and pixel electrode (col. 1, lines 30-39). Claim 29 is dependent on claims 11 or 12 and 28 and is rejected on the same basis and what is stated above.

As pertaining to claim 30, Shibahara discloses applying a vertical electrical field to the opposed or common electrode and pixel electrode (col. 1, lines 15-23). Claim 30 is dependent on claims 11 or 12 and 28 and is rejected on the same basis and what is stated above.

As pertaining to claim 32, Shibahara discloses a lighting device for moving light emitting region in synchronism with a scanning signal applied to the scanning line (col. 4, lines 9-67; col. 5, lines 1-48; col. 7, lines 25-67; col. 8, lines 1-10). Claim 32 is dependent on claim 11 or 12, and 28 and is rejected on the same basis and what is stated above.

As pertaining to claims 33-34, Akimoto discloses driving waveforms of different levels for displaying information in one region and then displaying different information in another region (col. 4, lines 9-42, 66-67; col. 5, lines 1-65). In addition, Akimoto discloses a plurality of signal lines formed with a plurality of scanning lines in a form of a matrix, a plurality of first switches formed corresponding to the intersection of scanning lines and first signal lines (col. 3, lines 49-67; col. 4, lines 1-8; fig. 2); and a plurality of second switches formed between the second signal lines and first switches (col. 3, lines 49-67; col. 4, lines 1-8; fig. 2).

As pertaining to claim 35, Shibahara discloses a lighting device for moving light emitting region in synchronism with a scanning signal applied to the scanning line (col. 4, lines 9-67; col. 5, lines 1-48; col. 7, lines 25-67; col. 8, lines 1-10).

7. Claims 16, 24-25 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akimoto, Miyoshi and Shibahara as applied to claim 11 or 12 or 13 or 18 or 19 or 28 above, and further in view of Nakakuki, US 6,160,593.

As pertaining to claims 16, 24-25 and 31 Akimoto, Miyoshi and Shibahara disclose what has previously been stated above. Shibahara does disclose the use of a color filter parallel to the scanning line (col. 4, lines 9-67; col. 5, lines 1-48; col. 7, lines 25-67; col. 8, lines 1-10).

As pertaining to claims 16, 24-25, and 31, they do not disclose the color filter being a stripe structure.

As pertaining to claims 16, 24-25, and 31, Nakakuki disclose the use of a stripe structured color filter (col. 2, lines 9-19).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the stripe structured color filter of Nakakuki with the color filter of Akimoto, Miyoshi and Shibahara.

The suggestion/motivation for doing so would have been to provide a better color filter for displaying higher resolution images. Claims 16, 24, 25 and 31 are dependent on claims 11 or 12, and 13 or 18 or 19 or 28 and are rejected on the same basis and what is stated above.

## Response to Arguments

8. Applicant's arguments filed 10/29/04 have been fully considered but they are not persuasive.

Applicant's arguments with regarding to utilizing Akimoto, US 6,329,973 under 35 U.S.C. 102(e) is acknowledged. In view of applicant's arguments, the PCT (WO97/11447) of the US Patent (US 6,329,973) is used in the above rejections.

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Applicant arguments with regarding to Akimoto are similar to the arguments presented in the previous Remarks, which are regarding to Akimoto does not disclose taking each of a predetermined number of pixels as one block unit, forming one screen image of a plurality of one block units, wherein at least two of the one block units have different information. The examiner disagrees with applicant's arguments because of the same reasons presented previously. Akimoto, in Fig. 3, teaches two block units which form one screen image information. This teaching clearly meets the requirement taking each of a predetermined number of pixels as one block unit, forming one screen image of a plurality of one block units. Akimoto further teaches rewriting the image information in the block units once every scanning frame period. For example, the image information in the moving picture display area stays the same within a same scanning frame period. Akimoto further teaches the image information displayed on the still picture display area is different from the image information displayed on the moving picture display area. This teaching clearly meets the requirement of at least two of the one block units have different information.

As to applicant's arguments with regarding to Shibahara, see the above rejections. For the above reasons, the rejections stand.

#### Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis-Doon Chow whose telephone number is 703-305-4398. The examiner can normally be reached on 8:30-6:00, Alternate Monday off.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

D. Chow February 16, 2005

> DENNIS-DOON CHOW PRIMARY EXAMINER